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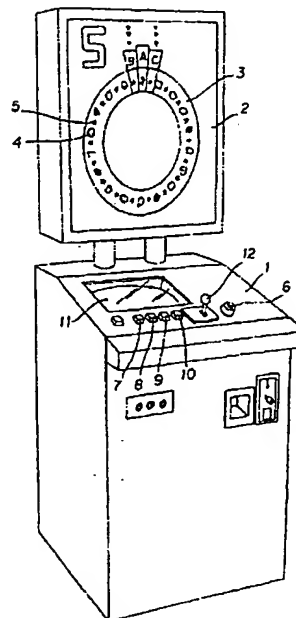
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(54) 【発明の名称】 回転スロット式遊技装置

(57) 【要約】

【目的】 本発明はコインを投入する毎にモニター画面に当りマークの配当をステップアップする条件を形成し、その条件でゲームするかどうか自分で判断し、スロットルレバーを引いて周辺部に多数の当りマーク、外れマークを環状に表示した回転スロット円板を回転停止させ、当りマークの種類と前記条件により配当を行うようにした全く新しい回転スロット式遊技装置に関するもので、遊技者が当りマークの配当条件を自分で形成し、大きいスリルを味わうことができるようにすることを目的としている。

【構成】 回転円板の周辺部に表示した多数のマーク中、当りマークの配当をステップアップする各種カードを、投入したコインの数だけモニター画面に表示するステップアップ形成手段と、前記回転円板をオン・オフし回転数を制御するスロットルレバー手段と、配当マークの種類と前記ステップアップ条件を検知し、該検知信号を受信して配当動作を行う手段と、前記各手段を行うコンピュータを備えている。



## 【特許請求の範囲】

【請求項1】 回転円板の周辺部に表示した多数のマーク中、当りマークの配当をステップアップする各種カードを、投入したコインの数だけモニター画面に表示するステップアップ形成手段と、前記回転円板をオン・オフし回転数を制御するスロットルレバー手段と、配当マークの種類と前記ステップアップ条件を検知し、該検知信号を受信して配当動作を行う手段と、前記各手段を行うコンピューターを備えた回転スロット式遊技装置。

## 【発明の詳細な説明】

## 【0001】

【産業上の利用分野】 本発明は、コインを投入する毎にモニター画面に当りマークの配当をステップアップする条件形成手段と、周辺部に多数の当りマーク、外れマークを環状に表示した回転スロット円板とを組み合わせた全く新規な回転スロット式遊技装置に関する。

## 【0002】

【従来の技術】 従来、外周に多数のマークを表示した回転ドラムを3個同一軸に回転自在に並設し、3個の回転ドラムを不規則に回転停止し、停止した時の特定位置の3個のマークの組み合わせにより配当を行うようにしたスロットマシンは周知である。

【0003】 又、外周に多数のマークを環状に表示した回転盤を回転させ乍ら表示部上に1個の玉を転動させ、該回転盤が自然に停止した時の玉が位置した部分のマークを当りマークとし、そのマークに貼ったコイン数に対応したコインを配当するようにしたルーレット遊技装置は公知である。

## 【0004】

【発明が解決しようとする課題】 ところで上記従来技術に於て、前者も後者も当りマークを予めプレイヤーがステップアップするということが行われていなかったので遊技そのもののスリルが少く、興味が半減するという問題点があった。

## 【0005】

【課題を解決するための手段】 本発明は上記問題点を解決することを目的とし、回転円板の周辺部に表示した多数のマーク中、当りマークの配当をステップアップする各種カードを、投入したコインの数だけモニター画面に表示するステップアップ形成手段と、前記回転円板をオン・オフし回転数を制御するスロットル・レバー手段と、配当マークの種類と前記ステップアップ条件を検知し、該検知信号を受信して配当動作を行う手段と、前記各手段を行うコンピューターを備えたことを特徴とする。

## 【0006】

【実施例】 次に図示した本発明の一実施例について詳細に説明する。1はコンピューターを内蔵した基台、2はその上面に垂直に突設したラウンドスロット遊技盤である。3はラウンドスロット遊技盤に回転自在に取り付け

られた回転円板で、周辺部に多数の当りマーク4及び外れマーク5を含め36個のマークを環状に表示してある。

【0007】 基台1表面にはコイン投入口6、カードベット数を決める1カードのボタン10、3カードのボタン9、5カードのボタン8、10カードのボタン7と、該カード表示部と該カードの中の当りカードにより各種当りマークの配当倍増条件やステップアップ条件を表示するモニター画面11がある。12はプレイヤーが該モニター画面11の条件を最終決定した時引くスロットルレバーである。

【0008】 カードの種類は下記の通りである。

## (1) 赤カード

7とBARの配当を上げていくステップアップカード (1ステップで7が10点、BARが5点上がる。7の最高が1000点、BARの最高が500点まで上がる。)

## (2) 黄カード

ベルとブラムの配当を上げていくステップアップカード (1ステップでベルが4点、ブラムが3点上がる。ベルの最高が400点、ブラムの最高が300点まで上がる。)

## (3) 緑カード

オレンジとチェリーの配当を上げていくステップアップカード (1ステップでオレンジが2点、チェリーが1点上がる。オレンジの最高が200点、チェリーの最高が100点まで上がる。)

## (4) ラッパカード

上記の絵柄の配当を最高4倍まで上げるカード (3枚引くと2倍、更に3枚引くと3倍、更に3枚引くと4倍。)

## (5) 赤☆カード

1枚引くと赤☆の配当が1点プラスされます (最高99点まで)。

## (6) 青☆カード

1枚引くと青☆の配当が1点プラスされます (最高99点まで)。

## (7) B、Cカード

通常はAスポットのみ当りが有効ですが、Bカード4枚引くとBにも当りが追加 (プラス) 有効になり、Cカードも4枚引くとCも当りが追加 (プラス) 有効になります。

## (8) 王冠7カード

2枚引くとジャックポットの権利が発生します。ジャックポットの権利とは円板を回してA・B・Cのどれか有効スポットに7が止まれば無条件にジャックポットのポイントが獲得できるものです。

## (9) ジャックポットのポイントカード

ジャックポットの権利が発生した場合の獲得できるポイント上げていくカード (最高15000点になるまで

カードは引けます。)

(10) バニーガールカード

条件が変わらないカード (スカのカード)

【0009】コインをコイン投入口6に入れるとモニター画面11にコイン投入枚数に相当するクレジット数が表示される。

【0010】カードの出し方について

・ (1)~(10)のそれぞれのカードの枚数を変化させた6種類のカードケースをコンピューターは持っている。

・ どのカードケースからカードを引くかコンピューターは毎ゲーム選択する。

・ 更に、選んだカードケースの中のカードの並びは毎回違う。

・ プレーヤーによって引かれたカードはモニター画面に表示され、その結果を図1の該当部分やランプで表示する。

・ ランプ表示は図2ガラス面の倍率と、A、B、C部分である。通常はAだけが有効ですが、B又はCのカードを引くと矢印1ヶが点灯する。更にB又はCのカードを引くと1つずつ矢印のランプがB又はCに向って移動する。B又はCのカードを4枚ずつ引くとB又はCが有効になる。ラッパカードを1枚引くとaのランプが点灯する。更にラッパのカードを引くと×4に向ってランプの点灯が移動します。×2、×3、×4のランプに点灯した場合にのみ、その倍率が上がる。

【0011】回転円板の回転機構について

図4、図5に示す通り、回転円板3の裏側には一定の半径上に10°間隔で36本のシャフトピン14が突設され、センサーリング板15が同軸に固定され、一定の規則のもとに十数ヶ所に切り込み16が形成されている。17は回転円板3の中心に固定されたモーターカブラ、18は直流モーターで、加える直流電圧を変化させることで回転数を変えることができる。19はセンサーユニットで6つの光センサー20が取り付けられており、前記センサーリング板15がこの6ヶの光センサー間を通過して回転するように配設されている。該光センサー20は光スイッチで黒く塗った部分に障害物がある時はスイッチオフ、障害物がない時はスイッチオンになる。これを利用して前記36のマークの中、どのマークがどの位置で止まっているか判別できるようになっている。

【0012】従って、センサーリング板15の切り込みは1周で36ヶのマークが識別できるように切り込み16の位置が決められている。

【0013】回転円板3が回転する時ソレノイド21がオンになり、ローラー22が取り付けられたロッド23が上に上り、回転円板3が停止する時ソレノイド21がオフになりローラー22が下に落ち、この時、ローラー22は手で軽く回転するようにしているので隣接するシャフトピン14とシャフトピン14の間にはさまって止るようになっている。

【0014】しかし、ローラー22がシャフトピン14の真上に止った時はオン・オフスイッチ24がオフになる迄 (つまり、ローラー22がシャフトピン14と隣のシャフトピン14との間に落ちる迄) 直流モーター18が回転するようになっている。

【0015】スロットルレバーの操作について  
スロットルレバー12を引くと直流モーター18に12Vの直流電圧が加わり、回転円板3は1秒間に1回転のスピードで回転する。同時にソレノイド21のロッド23も上り、ローラー22も上る。スロットルレバー12を引いてから2秒間はそのまま回転を続ける。2秒後にスロットルレバー12を戻すと直流モーター18の電圧が約3Vに下り回転数が1秒間に1/6迄下る。スロットルレバー12を戻してから5秒後に自動的に停止する。

【0016】又、スロットルレバー12を引き続けても5秒後には自動的にレバーを戻した動作に入る。同時にソレノイド21がオフになりローラー22を落す。ローラー22が隣接するシャフトピン14とシャフトピン14の間に落ちたことをオン・オフスイッチ24が検知し、この信号を基台1内のコンピューター (図示せず) に入力する。コンピューターがこの信号を確認するとセンサーユニット19からの信号を読み取り、当りマークか、外れマークかを読み取り、当りマークを検知した場合はモニター画面に形成されたステップアップ条件に従った配当動作を行い1ゲームを終了する。

【0017】ゲームをする場合はコインを投入し、カードベット数を決めるボタン7~10の中から自分の希望する枚数のボタンを押すと、コンピューターが毎ゲーム選択した各種カード25がモニター画面11に配られ表示される。この配られたカード25によりモニター画面11の各当りマークの配当倍数やステップアップ条件が次第にステップアップされて行く。ビッグなオッズや条件が揃い、プレーヤーがゲームを始めようとしたらスロットルレバー12を引く。回転円板3が回転する。2秒後スロットルレバー12を戻し回転円板3の回転を減速し回転円板周辺部の特定マークが当り位置A又はA、B、Cに停止するようにコントロールする。5秒後に直流モーター18の回転数が0になる時ローラー22が下降し、惰性で極めてゆっくり回転している回転円板3裏側の隣接するシャフトピン14とシャフトピン14の間に落下して回転円板3を停止させる。

【0018】停止する直前にローラー22がシャフトピン14をのりこえて次のシャフトピン14との間に入ったり、のりこえられずに手前のシャフトピン14との間に落ちたりするのでスリルを増加することができる。ローラー22が完全に落ちるとオン・オフスイッチ24が検知し、コンピューターにこの信号が入力されるとセンサーユニット19からの信号をコンピューターが読み取り、A又はB、C位置のマークが当りマークか外れマークかを読み取り、当りマークの場合はモニター画面に形

成表示された該当マークの配当動作を行い1ゲームを終了する。

【0019】

【発明の効果】本発明によると、回転円板の周辺部に表示した多数のマーク中、当りマークの配当をステップアップする各種カードを、投入したコインの数だけモニター画面に表示するステップアップ形成手段と、前記回転円板をオン・オフし回転数を制御するスロットルレバー手段と、配当マークの種類と前記ステップアップ条件を検知し、該検知信号を受信して配当動作を行う手段と、前記各手段を行うコンピューターを備えているので、プレイヤーが自分で回転円板周辺部の当りマークの配当のステップアップ条件を形成し、その条件でゲームをするかどうか自分で判断し、次いでスロットルレバーを引いて回転円板を回転してゲームを開始し、スロットルレバーの引き方を制御し乍ら回転円板の回転速度をコントロールし、その停止位置を或る程度コントロールできるので、うまく止めれば大きな配当が得られ、従来の遊技装置では味わえない大きいスリルを味わうことができる。

【図面の簡単な説明】

【図1】本発明の一実施例外観斜視図である。

【図2】ラウンドスロット遊技盤正面図である。

【図3】基台上面のモニター画面である。

【図4】回転円板部の分解斜視図である。

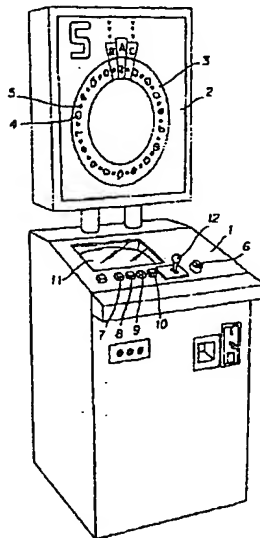
【図5】回転円板とソレノイド、ローラー、オン・オフスイッチの作動説明正面図である。

【図6】回転円板の回転位置検知用のセンサーユニット正面図である。

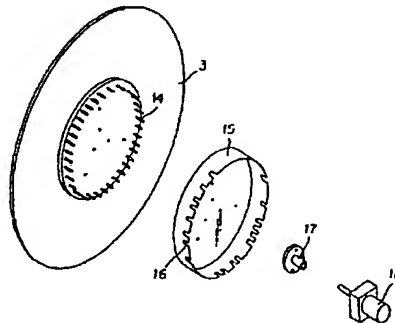
【符号の説明】

- |    |             |
|----|-------------|
| 1  | 基台          |
| 2  | ラウンドスロット遊技盤 |
| 3  | 回転円板        |
| 4  | 当りマーク       |
| 5  | 外れマーク       |
| 6  | コイン投入口      |
| 7  | ボタン         |
| 8  | ボタン         |
| 9  | ボタン         |
| 10 | ボタン         |
| 11 | モニター画面      |
| 12 | スロットルレバー    |
| 14 | シャフトピン      |
| 15 | センサーリング板    |
| 16 | 切り込み        |
| 18 | 直流モーター      |
| 20 | センサーユニット    |
| 21 | 光センサー       |
| 22 | ソレノイド       |
| 23 | ローラー        |
| 24 | ロッド         |
| 25 | 各種カード       |

【図1】



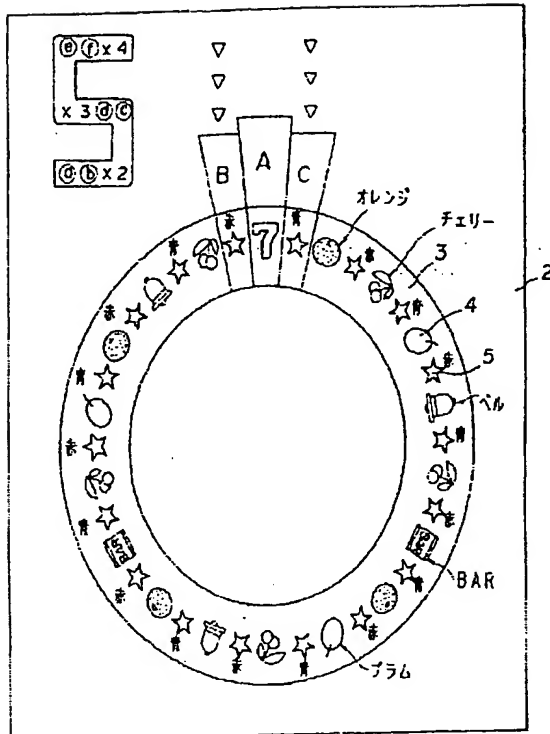
【図4】



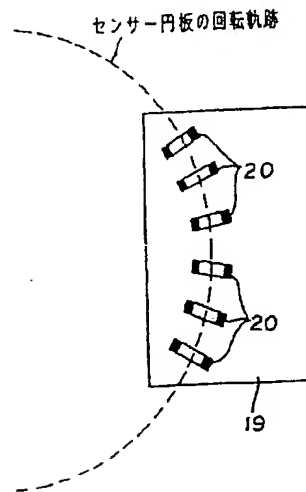
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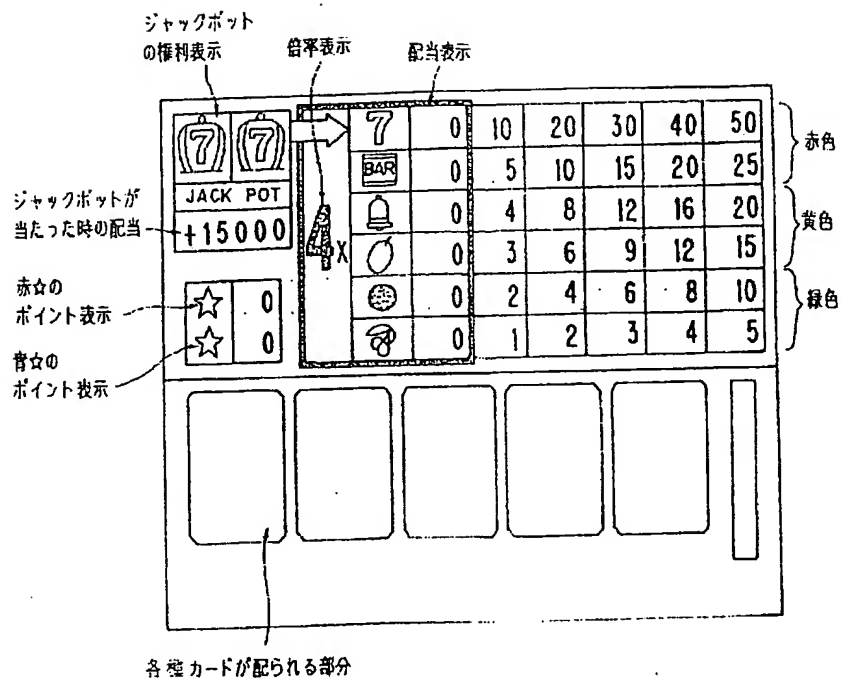
【図2】



【図6】

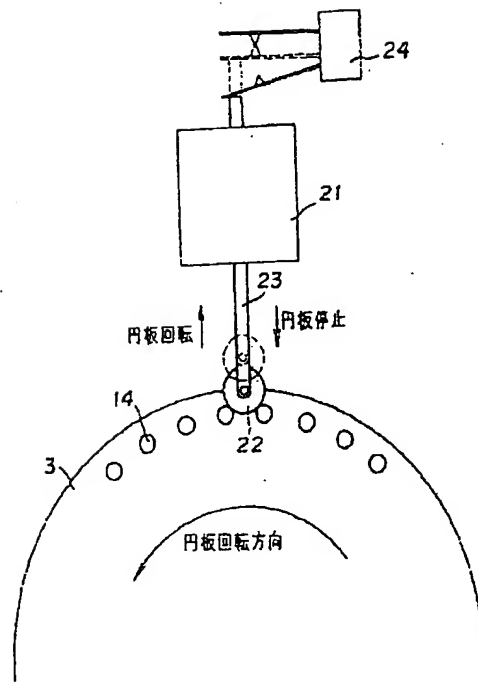


【図3】



(7)

【図5】



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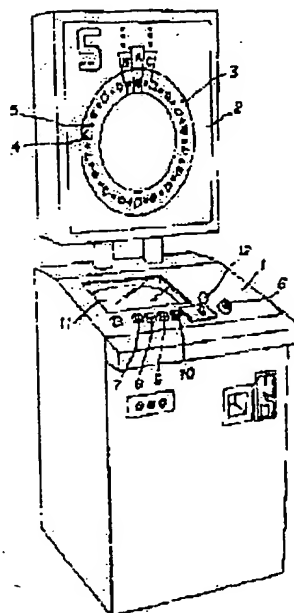
(71)Applicant : TAIYO JIDOKI:KK  
(72)Inventor : MIYASAKA YOSHIO

## (54) ROTARY SLOT TYPE GAME DEVICE

(57)Abstract:

PURPOSE: To allow a game player to set a bonus condition for himself/herself, and get much thrill by providing a stepup formation means for displaying various cards to step up a bonus for a hit mark on a monitor screen, corresponding to the number of coins fed to a game device.

CONSTITUTION: When a coin is thrown into a game device and one of buttons 7 to 10 for deciding the desired number of card bets is pressed, each type of cards is distributed to a monitor screen 11 and a bonus factor for each hit mark and a stepup condition are shown. When a throttle lever 12 is pulled, a rotary disc 3 begins to rotate. In two seconds, the lever 12 is returned to a home position and the rotation of the disc 3 is decelerated, thereby controlling a specific mark around the disc 3 to stop at hit positions A or A, B and C. As soon as the disc 3 stops, a computer makes judgement as to whether or not the mark at A, or B and C positions corresponds to a bonus. When the mark is a hit, the computer performs bonus distribution operation for the mark formed and shown on the screen 11, and one round of a game is over.



## LEGAL STATUS

[Date of request for examination]

14.11.1991

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02.07.1996

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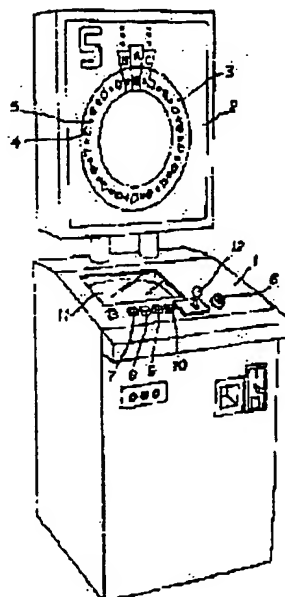
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[Patent number]  
[Date of registration]

[Number of appeal against examiner's  
decision of rejection]

[Date of requesting appeal against  
examiner's decision of rejection]

[Date of extinction of right]

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CLAIMS

[Claim(s)]

[Claim 1] The rotation slot formula game equipment which it had in the computer carry out a step-up formation means display only the number of the coin which threw in the various cards which step up a dividend of a hit mark during the mark of the masses which displayed on the circumference section of a rotating disk on a monitoring screen, a throttle liver-means turn the aforementioned rotating disk on and off, and control a rotational frequency, a means detect the modality and the aforementioned step-up conditions of a dividend mark, receive this detection signal, and perform a dividend operation

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DETAILED DESCRIPTION

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[Detailed Description of the Invention]

[0001]

[Field of the Invention] Whenever this invention throws in coin, it relates to the completely new rotation slot formula game equipment which combined a condition formation means to step up a dividend of a mark in a monitoring screen, and the rotation slot disk which displayed much hit marks and the blank mark on the circumference section annularly.

[0002]

[Description of the Prior Art] Conventionally, the slot machine which installs the rotating drum which displayed much marks on the periphery side by side free [ rotation ] in a three piece same shaft, carries out a rotation halt of the three rotating drums irregularly, and was made to pay a dividend with the combination of three marks of the specific position when stopping is common knowledge.

[0003] Moreover, the roulette game equipment which paid the coin corresponding to the number of coin which was made to rotate the rotation board which displayed much marks on the periphery annularly, hit, considered as the mark the mark of a fraction in which the ball when one ball is rolled on \*\* displays and this rotation board stops automatically was located, and was stuck on the mark is well-known.

[0004]

[Problem(s) to be Solved by the Invention] By the way, in the above-mentioned conventional technique, the former and the latter hit and there was a trouble where there are few thrills of the game [ itself ] since it was not performed that a player steps up beforehand, and interest reduced a mark by half.

[0005]

[Means for Solving the Problem] Under the mark of the masses displayed on the circumference section of a rotating disk for the purpose of this invention solving the above-mentioned trouble, A step-up formation means to display only the number of the coin which threw in the various cards which step up a dividend of a hit mark on a monitoring screen, It is characterized by having the computer which performs a throttle lever means to turn the aforementioned rotating disk on and off, and to control a rotational frequency, a means to detect the modality and the aforementioned step-up conditions of a dividend mark, to receive this detection signal, and to perform a dividend operation, and each aforementioned means.

[0006]

[Example] Next, one example of the illustrated this invention is explained in detail. The pedestal in which 1 built the computer, and 2 are the round slot game boards which protruded at right angles to the top. 3 is the rotating disk attached in the round slot game board free [ rotation ], and has displayed 36 marks on the circumference section annularly including much the hit marks 4 and the blank marks 5.

[0007] The monitoring screen 11 which displays the dividend redoubling conditions and step-up conditions of a mark per various kinds with the hit card in the button 10 of one card which determines coin input port 6 and the number of card beds, the button 9 of three cards, the button 8 of five cards, the button 7 of ten cards, and this card display and this card is shown in pedestal 1 front face. 12 is throttle liver - lengthened when a player carries out the terminal decision of the conditions of this monitoring screen 11.

[0008] The modality of card is as follows.

- (1) Step \*\*\*\*\*\_\*\* which raises the dividend of the red card 7 and BAR (ten points and BAR go up [ 7 ] by one step by five points.) The highest of 1000 points and BAR goes up [ the highest of 7 ] to 500 points.
- (2) Step \*\*\*\*\*\_\*\* which raises the dividend of a yellow card bell and a plum (four points and a plum go up [ a bell ] by one step by three points.) The highest of 400 points and a plum goes up [ the highest of a bell ] to 300 points.
- (3) Step \*\*\*\*\*\_\*\* which raises the dividend of a green card orange and a cherry (two points and a cherry go up [ an orange ] by one step by one point.) The highest of 200 points and a cherry goes up [ the highest of an orange ] to 100 points.
- (4) The card which raises a dividend of the pattern of the \*\*\*\*\*\_\*\* above a maximum of 4 times (if three sheets are subtracted, three more sheets will be subtracted twice and three more sheets will be subtracted 3 times 4 times.)
- (5) If it lengthens one red \* card, one dividend of red \* is added (to a maximum of 99 points).
- (6) If it lengthens one blue \* card, one dividend of blue \* is added (to a maximum of 99 points).
- (7) although B. C card usual has [ A spot ] an effective hit, if it lengthens four B cards -- B -- a hit -- an addition (plus) -- if it becomes effective and four C cards are also lengthened -- C -- a hit -- an addition (plus) -- it becomes effective
- (8) If it lengthens two crown 7 cards, the right of a jackpot will occur. The right of a jackpot turns a disk, and if some 7 stops at an effective spot, it is the thing of A, B, and C which can gain the point of a jackpot unconditionally.
- (9) The card which raises the point which can gain when the right of the \*\*\*\*\*\_\*\*\*\*\* pot of a jackpot occurs (a card is over until it becomes a maximum of 15000 points.)
- (10) The card which does not change bunny gar Luke-\*\* conditions (card of \*\*\*\*)
- [0009] If coin is put into coin input port 6, the number of credits equivalent to coin injection number of sheets will be displayed on a monitoring screen 11.
- [0010] It is - about how to take out a card. (1) The computer has six kinds of card cases to which the number of sheets of each card of - (10) was changed.
- A card is lengthened from which card case, or \*\* game selection of the computer is carried out.
  - The list of the card in the selected card case is different further each time.
  - The card pulled with the player is displayed on a monitoring screen, and expresses the result with the applicable fraction and lamp of drawing 1.
  - Lamp display is the scale factor of a drawing 2 glass side, A and B, and C fraction. Usually, although only A is effective, if the card of B or C is lengthened, the one arrow head will light up. Furthermore, if the card of B or C is lengthened, every one lamp of the arrow head will move toward B or C. If it lengthens four cards of B or C at a time, B or C will become effective. If one \*\*\*\*\*\_\*\* is lengthened, the lamp of a will light up. Furthermore, if the card of a trumpet is lengthened, lighting of a lamp will move toward xfour. Only when the light is switched on on the lamp of x2, x3, and x4, the scale factor increases.
- [0011] 36 shaft pins 14 protrude at intervals of 10 degrees on a radius fixed to the background of a rotating disk 3, the sensor-ring plate 15 is fixed to the same axle, it cuts deeply to about ten places, and 16 is formed in the basis of a fixed rule as the rolling mechanism of a rotating disk is shown in drawing 4 and the drawing 5. The motor-side coupler with which 17 was fixed to the center of a rotating disk 3, and 18 are DC motors, and a rotational frequency can be changed by changing the direct current voltage to apply. Six photosensors 20 are attached in the sensor-unit, and 19 is arranged so that the aforementioned sensor-ring plate 15 may rotate through between this six photosensor. When an obstruction is in the fraction applied black by the optical switch and this photosensor 20 does not have switch-off and an obstruction, it is turned on [ switch ]. Which mark can distinguish now in \*\*\*\*\*\_\*\* in the mark of the above 36 in which position using this.
- [0012] Therefore, the slitting of the sensor-ring plate 15 is deeply cut so that 36 marks can be discriminated by 1 round, and the position of 16 is decided.
- [0013] between the shaft pin 14 which adjoins since a solenoid 21 becomes off, a roller 22 falls downward and the roller 22 is made to rotate by hand lightly at this time when a solenoid 21 is turned on [ it ] when a rotating disk 3 rotates, the rod 23 with which the roller 22 was attached goes up upwards and a rotating disk 3 stops, and the shaft pins 14 -- being caught -- \*\*\*\* -- it is like
- [0014] However, DC motor 18 rotates until an on-off switch 24 becomes [ a roller 22 ] off right above [ of the shaft pin 14 ] at the time of \*\*\*\*\* (until it gets it blocked and a roller 22 falls between the shaft pin 14 and the next shaft pin 14).

[0015] If the throttle lever -12 is lengthened about operation of throttle lever -, the direct current voltage of 12V will be applied to DC motor 18, and a rotating disk 3 will be rotated at the speed of 1 rotation in 1 second. The rod 23 of a solenoid 21 also goes up simultaneously, and a roller 22 also goes up. After lengthening the throttle lever -12, the \*\*\*\* rotation is continued for 2 seconds. If the throttle lever -12 is returned 2 seconds after, the voltage of DC motor 18 will get down to about 3 V, and a rotational frequency will go down to 1/6 in 1 second. After returning the throttle lever -12, it stops automatically 5 seconds after.

[0016] Moreover, even if it continues lengthening the throttle lever -12, it goes into the operation which returned the lever automatically 5 seconds after. Simultaneously, a solenoid 21 becomes off and drops a roller 22. An on-off switch 24 detects having fallen between the shaft pin 14 by which a roller 22 adjoins, and the shaft pin 14, and this signal is inputted into the computer (not shown) in a pedestal 1. When the computer checked this signal, the signal from the sensor-unit 19 is read, a hit mark and a blank mark is read and a hit mark is detected, the dividend operation according to the step-up conditions formed in the monitoring screen is performed, and one game is ended.

[0017] When carrying out a game, coin is thrown in, and if the button of the number of sheets which he wishes out of the buttons 7-10 which determine the number of card beds is pushed, the various cards 25 the computer carried out [ the cards ] \*\* game selection will be distributed and displayed on a monitoring screen 11. The dividend multiple and step-up conditions of each hit mark of a monitoring screen 11 step up gradually with this distributed card 25, and it goes. If it decides for \*\*\*\*\* odds and \*\*\*\*\* conditions to begin a set and for a player to begin a game, the throttle lever -12 will be lengthened. A rotating disk 3 rotates. It controls to return the after [ 2 seconds ] throttle lever -12, to slow down rotation of a rotating disk 3, and for the specific mark of the rotating-disk circumference section to hit, and to stop to position A, or A, B and C. When the rotational frequency of DC motor 18 is set to 0 5 seconds after, a roller 22 downs, and it falls between the shaft pin 14 by which rotating-disk 3 background which is rotating very slowly from habit adjoins, and the shaft pin 14, and a rotating disk 3 is stopped.

[0018] Just before stopping, a roller 22 gets and surpasses the shaft pin 14, and since it enters between the following shaft pins 14 or it falls between the front shaft pins 14, without being got and surpassed, a thrill can be increased. \*\*\*\* and the on-off switch 24 detect completely, if this signal is inputted into a computer, a computer will read the signal from the sensor-unit 19, the mark of A or B, and C position hits, and it separates in a mark and a mark is read, and in a hit mark, a roller 22 performs the dividend operation of this hit mark by which the formation display was carried out to a monitoring screen, and ends one game.

[0019]  
[Effect of the Invention] A step-up formation means to display only the number of the coin which threw in the various cards which step up a dividend of a hit mark during the mark of the masses displayed on the circumference section of a rotating disk according to this invention on a monitoring screen, A throttle lever-means to turn the aforementioned rotating disk on and off, and to control a rotational frequency, Since it has the computer which performs a means to detect the modality and the aforementioned step-up conditions of a dividend mark, to receive this detection signal, and to perform a dividend operation, and each aforementioned means A player forms the step-up conditions of a dividend of the hit mark of the rotating-disk circumference section by themselves. Judge [ whether a game is carried out on the condition, and ] personally, subsequently lengthen throttle lever -, rotate a rotating disk, and a game is started. How to lengthen throttle lever - is controlled, the rotational speed of \*\* rotating disks is controlled, for the halt position, since grade control can be carried out, if it stops well, a big dividend will be obtained, and a certain large thrill which cannot \*\* can be \*\*ed with the conventional game equipment.

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the one example appearance perspective diagram of this invention.

[Drawing 2] It is round slot game board front view.

[Drawing 3] It is a monitoring screen on the top of a pedestal.

[Drawing 4] It is the decomposition perspective diagram of the rotating-disk section.

[Drawing 5] They are a rotating disk, a solenoid, a roller, and the operation explanation front view of an on-off switch.

[Drawing 6] It is the sensor-unit front view for rotation position detection of a rotating disk.

[Description of Notations]

1 Pedestal

2 Round Slot Game Board

3 Rotating Disk

4 Hit Mark

5 Blank Mark

6 Coin Input Port

7 Button

8 Button

9 Button

10 Button

11 Monitoring Screen

12 Throttle Lever -

14 Shaft Pin

15 Sensor-Ring Plate

16 Slitting

18 DC Motor

19 Sensor-Unit

20 Photosensor

21 Solenoid

22 Roller

23 Rod

24 On-off Switch

25 Various Cards

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[Translation done.]

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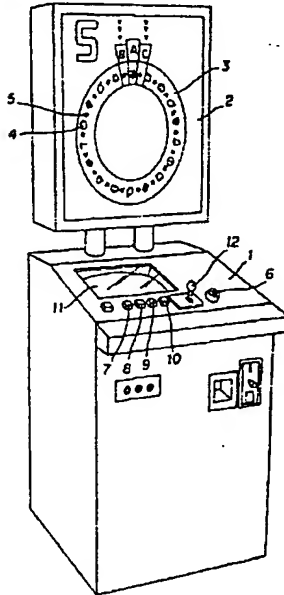
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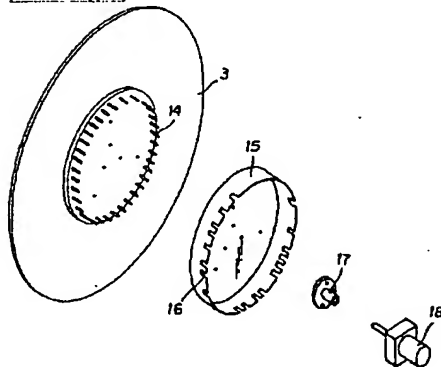
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DRAWINGS

[Drawing 1]

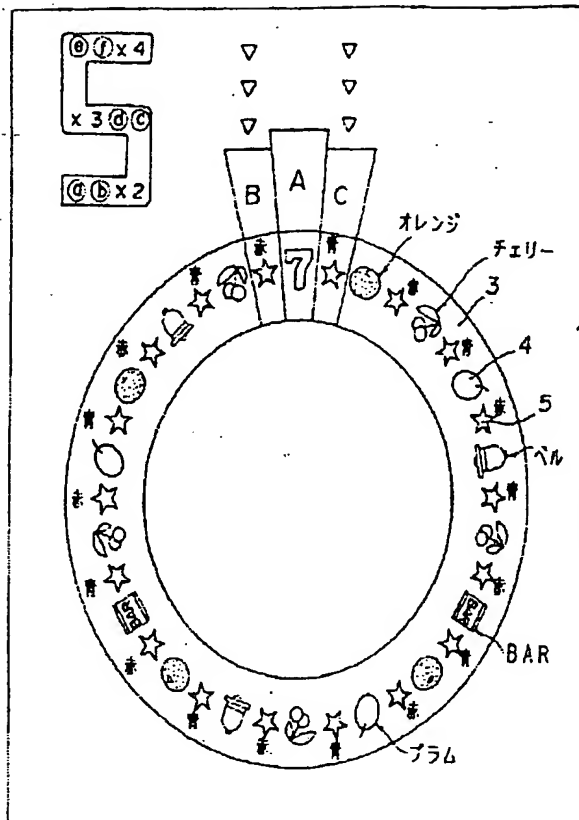


[Drawing 4]



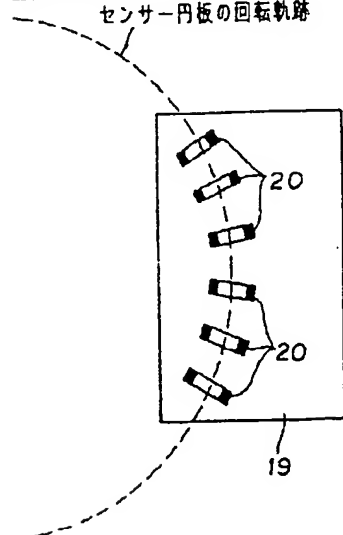
[Drawing 2]





[Drawing 6]

センサー円板の回転軌跡

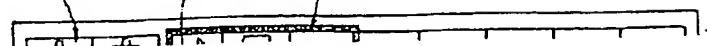


[Drawing 3]

ジャックポットの  
権利表示

倍率表示

配当表示

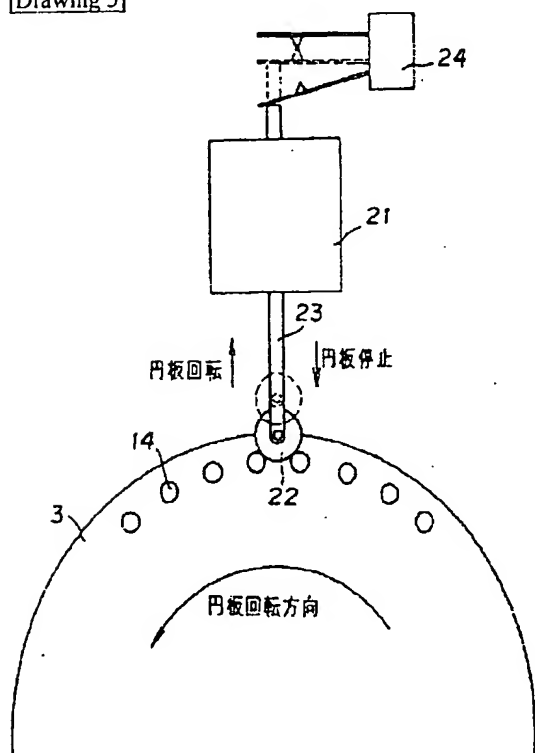


ジャックポットが当たった時の配当

|               |        |   |    |    |    |    |    |
|---------------|--------|---|----|----|----|----|----|
| (7)(7)        | 7      | 0 | 10 | 20 | 30 | 40 | 50 |
| JACK POT      | BAR    | 0 | 5  | 10 | 15 | 20 | 25 |
| +15000        | BELL   | 0 | 4  | 8  | 12 | 16 | 20 |
| 赤☆の<br>ポイント表示 | ORANGE | 0 | 3  | 6  | 9  | 12 | 15 |
| 青☆の<br>ポイント表示 | LEMON  | 0 | 2  | 4  | 6  | 8  | 10 |
|               | CHERRY | 0 | 1  | 2  | 3  | 4  | 5  |

各種カードが配られる部分

[Drawing 5]



[Translation done.]

Public Patent Disclosure

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(43) Disclosure date: May 28, 1993

(51)Int. CI ID# Authority #  
A63F 5/04 501 A 7130-2C

F1 Technical display points

C 7130-2C

Examination requested.

Total number of document (7 pages)

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(71) Petition party: 391062414

Taiyo Jidoki, Ltd.

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(22) Petition party: November 14, 1991

(72) Inventor: Yoshio Miyasaka

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Chiba-ken, Japan

(74) Representative: Sadao Ito, attorney

(54) Name of Invention: Rotating slot style gaming device

Object:

The object of this invention is related to a brand new rotating style slot game feature and designed to allow players to select symbol distribution on their own when they for a bigger thrill. Every time coins are inserted players will have a chance to formulate the condition to step up pay distribution on a monitor screen. Players can decide whether they will play a game under this condition and pull a slot handle to turn rotating slot turntable that has various winning and losing symbols displayed circularly in circumference. The pay distribution will be made based on winning symbols and condition selected previously.

**Structure:**

The device includes a step-up formulation method to display cards that step up winning symbol distribution among various symbols displayed on a turntable circumference for the numbers of coins inserted and turn on and off a turntable, the slot handle mechanism which control numbers of turns, the feature to detect the kind of distribution symbols and make distribution when detection signals are received, and computer which controls all these features.

**Scope of requested patent:**

Requested item 1:

Step-up formulation method to display cards that step up winning symbol distribution among various symbols displayed on turn table circumference for the numbers of coins inserted and turn on and off a turntable, slot handle mechanism which control numbers of turns, the feature to detect the kind of distribution symbols and make distribution when detection signals are received, and computer that controls all these features.

**Detailed description of invention:**

**0001 - Utility field in industry:**

This invention is related to a brand new rotating slot style gaming device that includes the condition formulation method to step up symbol distribution by striking coins on monitor display and a rotating slot turntable which has display of various winning and losing symbols displayed circularly on circumference.

**0002 - Conventional technology:**

In the past, a slot machine that has three individually rotated drums with various symbols displayed in outer edge placed on one axis is widely known. Three rotating drums turn and stop randomly. Pay distribution is made based on the combination of the certain three symbols.

**0003:**

Also, a roulette style gaming device that pays the numbers of coins shown on the symbol that a ball stopped on a turntable with various symbols displayed on perimeters is public knowledge.

**0004 - Subject that an inventor attempts to resolve:**

However, above technology does not allow players to step up the symbols so that the thrill

of playing is minimum and players have lost interest.

0005 - Method to revolve the problems:

The object of this invention is to revolve the above problems. Characteristics are the step-up formulation method to display cards that step up winning symbol distribution among various symbols displayed on a turntable circumference for the numbers of coins inserted and turn on and off a turntable, the slot handle mechanism which control numbers of turns, the feature to detect the kind of distribution symbols and make distribution when detection signals are received, and computer which controls all these features.

0006 - Practical examples:

Next is the detailed explanation of one of the practical example of this invention.

1. Base with computer
2. Round slot game plate placed vertically on the base
3. Turn table placed on round slot game plate with 36 symbols displayed circularly (4 + 5).
4. Various winning symbols on circumference.
5. Losing symbols.
6. Coin entry
7. Button for 10 cards
8. Button for 5 cards
9. Button for 3 cards
10. Button for 1 card which decides the number of card bet.
11. Monitor display which displays pay multiplication condition or step-up condition from various winning mark based on a winning card.
12. Slot handle a player will pull when he/she has decided the condition from monitor display.

0007:

Base (1) includes 6, 10, 9, 8, 7, card display area, 11, and 12.

0008:

There are the following cards.

1. Red card:

Step-up card that will increase 7 and BAR pays. (1 step increase 7 pay by 10 points and Bar pay by 5 points. The maximum pay for 7 is 1,000 and Bar is 500 points.)

2. Yellow card:

Step-up card that will increase Bell and Plum pays. (1 step will increase Bell by 4 points and Plum by 3 points. The maximum pay for Bell is 400 points and Plum is 300 points)

3. Green card:

Step-up card that will increase Orange and Cherry pays. (1 step will increase Orange by 2 points and Cherry by 1 point. The maximum for Orange is 200 points, and Cherry is 100 points.)

4. Trumpet card:

A card that will increase above pay for up to 4 times. (3 cards pulled - twice increase, additional three cards pulled - 3 times, another additional 3 cards pulled - 4 times)

5. Red \*(star) card:

One card pulled will increase Red \* pay by one point. (Maximum 99 points)

6. Blue \*(star) card:

One card pulled will increase Blue \* pay by one point. (Maximum 99 points)

7. B. C card:

Normally win will be effective only on A spots, but when four B cards are pulled additional points will be applied on B spots, and four C cards pulled will apply additional points on C spots.

8. Crown 7 card:

Two cards pulled will create a right for jackpot. A right for jackpot means the right to win jackpot when a player turns turntable and 7 stops on either A, B, or C spots.

9. Jackpot point card:

Card that will increase point that could be won by right for jackpot. (Cards can pulled up to maximum 15,000 points)

10. Bunny girl card:

Card with no condition change.

0009:

When a coin is inserted into coin entry (6) credit number that will coincide with a numbers of coins inserted will be displayed on monitor display (11).

0010 - The distribution of cards:

- Computer possesses six types of card case with different numbers of cards.
- Each game computer selects which card case cards are selected from.
- In addition, the sequence of cards in card case is different each time.
- Cards selected by a player will be displayed on a monitor screen, and the result will be shown on certain area on Picture #1 or lights.
- Multiplier and A, B, and C spots on Picture #2 will be lit. Normally, it only apply on A, but when B or C cards are pulled one arrow will be lit. In addition, when B or C cards are pulled the arrow light will move toward B or C spots one at a time. When four of B or C cards are pulled the multiplier will apply on B or C spots. When one trumpet card is pulled A lamp will be lit. When another trumpet card is pulled the light will move toward x4. When the light is on x2, x3, or x4 lamp respective multiplication will apply.

0011 - Turntable mechanism:

14. Shaft pins
15. Sensor ring board
16. Incisions
17. Motor coppler
18. Direct current motor (Direction of turn can be changed by changing direct current amount.
19. Sensor unit
20. Six Hikari sensor
21. Solenoid
22. Roller
23. Rod
24. On/Off switch
25. Cards

As shown on Picture #4 and #5 there are 36 shaft pins (14) on every 10 ° on radius on the back of a turntable (3), and a sensor ring board (15) with over dozen incisions (16) on an axis are installed. Also, there are a monitor coppler (17), turning direction of the direct current motor can be changed by the amount of direct current applied (18), and a sensor unit, and six Hikari sensor (20). Sensor ring board (15) is located strategically to turn



through six Hikari sensors. Hikari sensors (20) will be off when there are obstacles on the black area created by Hikari switch, and it will be off when there aren't any obstacles. Through this mechanism one symbol out of 36 symbols will be detected.

0012:

Therefore, incisions on the sensor ring board (15) are located in 16 locations to detect 36 marks on diameter.

0013:

Solenoid (21) will be on when the turntable (3) turns, and the rod(23) with the roller (22) attached will be on top. When the turntable stops the solenoid is off and the roller will be at the bottom. The roller is left to be turned with a hand so that it stops between two adjacent shaft pins (14).

0014:

But, when the roller (22) stops directly on top of the shaft pin (14) the direct current motor (18) will turn until the on/off switch (24) will be turned off. (Until the roller (22) stops between two adjacent shaft pins (14)).

0015 - Slot handle mechanism:

When the slot handle (12) is pulled 12V direct current will be applied to direct the current motor (18), and a turntable (3) will turn at the speed of one turn per minute. At the same time, the rod (23) on the solenoid (21) will be moved up and the roller (22) will move up simultaneously. The turntable (3) will turn at least for two seconds after the slot handle(12) is pulled. When the slot handle (12) is returned after two seconds direct current on a direct current motor (18) will be reduced to approximately 3V, and the turning will be reduced to 1/6 turn per minute. The turntable (3) will stop automatically five seconds after the slot handle (12) is returned.

0016:

When the slot handle pull is continued turntable (3) movement will be defaulted to the same movement with the handle (12) being returned. At the same time the solenoid (21) will be turned off and the roller (22) will be dropped. When the on/off switch (24) detects the roller (22) being dropped between two adjacent shaft pins (14) a signal will be sent to the computer in the base unit. When computer confirms this information it will read the signal sent from the sensor unit (19) and find out winning or losing symbols. When a winning symbol is detected the device will make the pay distribution based on the step-up condition displayed on the monitor screen and one game will be completed.

0017:

The game will be played by inserting coins, selecting cards by pressing card bet buttons (7 - 10). Cards (25) computer selected will be displayed on the monitor screen (11). Pay multiplier on symbols or step-up condition will be increased on the monitor screen (11) according to these cards. When a player decided to start a game based on good odds and/or conditions he/she will pull the slot handle (12). The turntable (3) starts to turn. After two seconds return the slot handle (12) and reduce the turntable (3) speed and control turn to stop certain symbols to stop on A, B, or C spots. After five seconds when the direct current motor (18) turning speed is 0 the roller (22) will be dropped between two adjacent shaft pins (14) on the back of the turntable that is turning very slowly.

0018:

Sometimes the roller (22) jumps adjacent shaft pin (14) and stops in between pins that are not adjacent, and it will increase the excitement. When the roller (22) drops completely the on/off switch (24) detects this and send a signal to the computer. When this information is input into the computer it will read a signal from the sensor unit (19) on A, B, or C and for a winning symbol the pay distribution will be made according to the winning distributions displayed on the monitor screen. This will complete one game.

0019 - Effect of invention:

Computer has the following features.

- Step-up formation method (feature) that will display various cards that will allow step up of winning symbols from various symbols marked on circumference of turntable for the numbers of coins inserted into the machine.
- Slot handle feature that turns on or off the turntable.
- Feature that detects pay symbol kinds and the step-up condition and receives a detection signal to make the pay
- Feature to execute above features

This will allow a player to formulate the step-up condition on a winning symbol on the turntable and decide whether to play a game or not under this condition. If he/she decides to play he/she will start a game by turning a turntable by pulling a slot handle and control speed of a turntable turn by pulling of a slot handle. The stop position can be controlled to a certain degree by a player, so this feature adds more excitement and thrill that can not be experienced with conventional games.

Description of pictures:

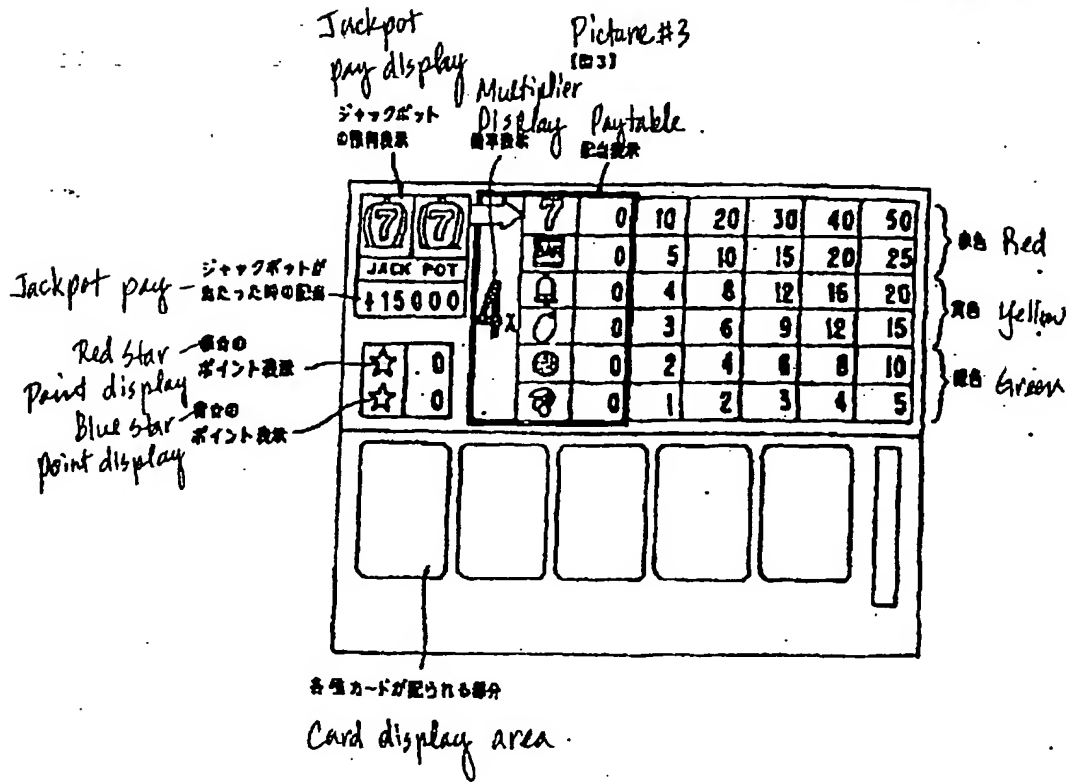
- Picture 1: Practical picture of this invention  
Picture 2: Round slot plate from the front

- Picture 3: Base with computer  
Picture 4: Round slot game plate placed vertically on the base  
Picture 5: Explanation of turntable, solenoid, roller and on/off switch movement  
Picture 6: Sensor unit to detect turning position of turntable

Description of numbered parts:

1. Base
2. Round slot plate
3. Turntable
4. Winning symbols
5. Losing symbols
6. Coin entry
7. Buttons
8. Buttons
9. Buttons
10. Buttons
11. Monitor screen
12. Slot handle
- 13 is missing on original. 14. Shaft pins
15. Sensor ring board
16. Incisions
17. Motor coppler
18. Direct current motor (Direction of turn can be changed by changing direct current amount.
19. Sensor unit
20. Hikari sensors
21. Solenoid
22. Roller
23. Rod
24. On/Off switch
25. Various cards

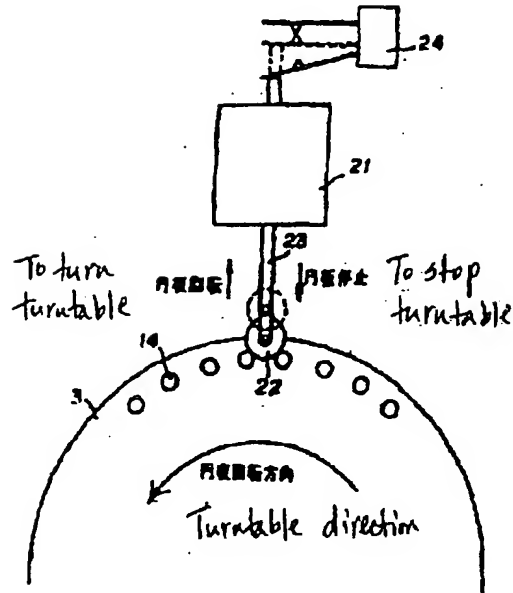
Translation by Taz Adams  
December 13, 1996



(7)

特開平5-131044

Picture #5  
[圖5]

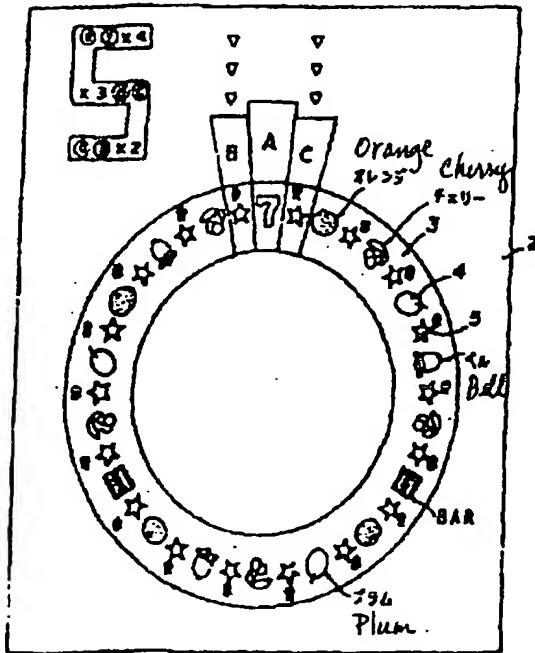


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Multiplier

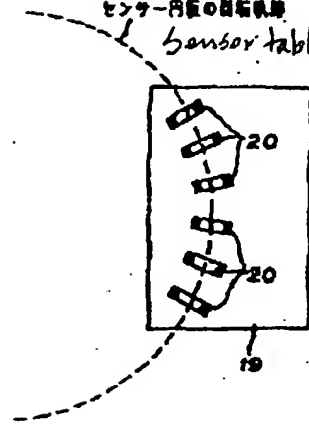
Picture #2  
[図2]



Picture #6  
[図6]

センサー基板の図解

Sensor table locus.



TRANSLATION

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Request for Examination: Submitted  
Number of Claims [1]  
(Total of 7 pages in the original Japanese)

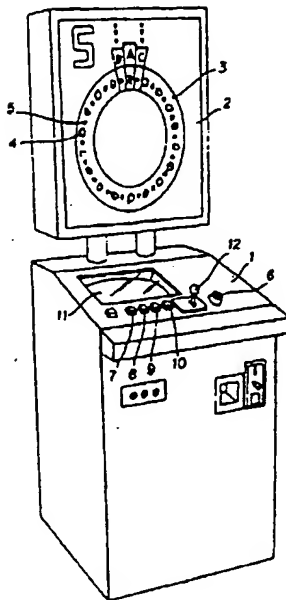
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(54) [Title of the Invention] Rotary Slot Game Device

(57) [Abstract]



[Object] The present invention relates to a totally novel rotary slot game device that makes it possible for a player to form bonus distribution conditions for hit marks appearing on a monitor screen each time coins are inserted, and for the player to determine for himself or herself whether or not to play the game with those conditions, and to stop the spinning of a rotary slot disc that displays annularly a plurality of hit marks and miss marks after pulling a throttle lever, and carrying out bonus distribution according to the type of hit mark and according to said conditions.

[Constitution] Rotary slot game device provided with a step-up formation means that displays on a monitor screen a variety of cards to step up bonus distribution for a hit mark, corresponding to the number of coins inserted, among a large number of marks displayed on the periphery of a rotary disc, and a throttle lever device for controlling the number of on/off rotations of said rotary disc, a means for detecting the type of hit mark and the step-up conditions and for receiving the detection signals, and a computer for carrying out said means.

#### [Claims of the Invention]

[Claim 1] Rotary slot game device characterized in being provided with a step-up formation means that displays on a monitor screen a variety of cards to step up bonus distribution for a hit mark, corresponding to the number of coins inserted, among a large number of marks displayed on the periphery of a rotary disc, and a throttle lever device for controlling the number of on/off rotations of said rotary disc, a means for detecting the type of hit mark and the step-up conditions and for receiving the detection signals, and a computer for carrying out said means.

#### [Detailed Description of the Invention]

[0001]

[Industrial Field of the Invention] The present invention relates to a totally novel rotary slot game device that combines a condition formation means which steps up the allocation of hit marks on a monitor screen each time a coin is inserted, and a rotary slot disc that displays a plurality hit marks and miss marks annularly on the periphery.



[0002]

[Prior Art] Heretofore, slot machines have been widely known to be of the type in which 3 rotary drums displaying a plurality of marks on the periphery are arranged in a row to freely rotate around identical axes, and the 3 rotary drums randomly stop rotating, and when they stop, bonus distribution is carried out in accordance with the combination of the 3 marks at a specified position.

[0003] Furthermore, roulette machines are also publicly known, wherein a ball is rolled on a display board while spinning a rotating base that displays a plurality of marks annularly on the periphery, and when said rotating base comes to a natural stop, the mark for the location where the ball stops is the hit mark, and coins are distributed corresponding to the number of coins indicated at that mark.

[0004]

[Problems to be Solved by the Invention] In the above-described prior art, the player does not set the step-up hit mark in advance in either the former nor the latter case, so there were the drawbacks of little thrill involved in the game, and declining interest in the game.

[0005]

[Means for Solving These Problems] The present invention aims to solve these problems, and is characterized in being provided with a step-up formation means that displays on a monitor screen a variety of cards to step up bonus distribution for a hit mark, corresponding to the number of coins inserted, among a large number of marks displayed on the periphery of a rotary disc, and a throttle lever device for controlling the number of on/off rotations of said rotary disc, a means for detecting the type of hit mark and the step-up conditions and for receiving the detection signals, and a computer for carrying out said means.

[0006]

[Working Example] A working example of the present invention is described in detail with drawings. 1 is a housing containing a computer, perpendicular to which is provided protrudingly a round slot game board 2; 3 is a rotary disc attached freely rotatingly to the round slot game board; and a plurality of hit marks 4 and miss marks 5 are included in 36 marks that are displayed annularly.

[0007] On the surface of housing 1 are a coin slot 6, a 1-card button 10, a 3-card button 9, a 5-card button 8, and a 10-card button 7 for deciding the number of card bets, a card display part and a monitor screen 11 for displaying the step-up conditions and the bonus distribution increase conditions of the various hit marks in accordance with the hit card among the cards. 12 is a throttle lever that a player pulls to make a final decision on the conditions to be displayed on said monitor screen 11.

[0008] The types of cards are as follows:

(1) Red card

A step-up card for raising the 7 and BAR bonus distribution (In 1 step, 7 is raised 10 points, BAR is raised 5 points. The maximum for 7 is 1,000 points, and the maximum for BAR is 500 points.)

(2) Yellow card

A step-up card for raising the Bell and Plum bonus distribution (In 1 step, Bell is raised 4 points, and Plum is raised 3 points. The maximum for Bell is 400 points, and the maximum for Plum is 300 points.)

(3) Green card

A step up card for raising the Orange and Cherry bonus distribution (In 1 step, Orange is raised 2 points, and Cherry is raised 1 point. The maximum for Orange is 200 points, and the maximum for Cherry is 100 points.)

(4) Trumpet card

A card for raising the bonus distribution for the above-mentioned pictures up to 4-fold (2-fold when 3 cards are pulled, 3-fold when another 3 cards are pulled, and 4-fold when another 3 cards are pulled.)

(5) Red star card

When 1 card is pulled, the bonus distribution for a red star is increased 1 point (up to a maximum of 99 points).

(6) Blue star card

When 1 card is pulled, the bonus distribution for a blue star is increased 1 point (up to a maximum of 99 points).

(7) B and C cards

Typically only A spots are hit positions, but when 4 B cards are pulled, a hit spot is added (plus) to B, and when 4 C cards are also pulled, C also becomes an additional hit (plus).

(8) Crown 7 card

When 2 are pulled, it gives jackpot rights. Jackpot rights refer to unconditional jackpot points earned when the disc is rotated and 7 stops at any hit position A, B, or C.

(9) Jackpot point card

A card that raises the points that can be earned when jackpot rights are obtained (cards can be pulled yielding up to a maximum of 15,000 points).

(10) Bunny girl card

A card for which conditions do not change (disappointment card).

[0009] When coins are inserted into the coin slot 6, a credit figure corresponding to the number of coins fed into the coin slot is displayed on the monitor screen 11.

[0010] How to remove cards

- The computer has 6 types of card cases for changing the number of cards in (1)-(10) above.
- For each game, the computer selects which cards to select from which card case.
- Moreover, the sequence of cards in each selected card case is different each time.
- The cards pulled by the player are displayed on the monitor screen, and the results are displayed by the display part and light in FIG. 1.
- The light displays show the multiples and A, B, and C on the glass surfaces of FIG. 2. Typically only A is a hit position, but when cards for B and C are pulled, one arrow flashes. Moreover, when cards for B and C are pulled, the light for one arrow at a time moves toward B or C. When 4 cards each for B or C are pulled, B or C become hit spots. When the trumpet card is pulled, light *a* flashes. Moreover, when the trumped card is pulled, the flashing of the light moves toward  $\times 4$ . The multiple rises only when the  $\times 2$ ,  $\times 3$ , and  $\times 4$  lights flash.

[0011] The spinning mechanism of the rotary disc

As shown in FIG. 4 and FIG. 5, 36 shaft pins *14* provided protrudingly at 10° intervals on a prescribed radius on the back side of the rotary disc *3*, and a sensor ring plate *15* is affixed coaxially, and notches *16* are formed at several dozen places based on predetermined rules. *17* is a motor coupler affixed in the center of the rotary disc *3*. *18* is a direct current motor, which can vary the rotation speed as the direct current voltage is varied. *19* is a sensor unit with 6 light sensor units *20* attached, and the sensor ring plate *15* passes among these 6 light sensors and is mounted so as to rotate. The light sensors *20* are switched off by the light switch when there is a malfunction in the parts painted black, and when there is no malfunction, the switch is on. Utilizing this, it is possible to determine which of the 36 marks has stopped at what position.

[0012] The notches of the sensor ring plate *15* are such that the positions of the notches *16* are determined so as to identify the 36 marks in one full rotation.

[0013] When the rotary disc *3* spins, a solenoid *21* turns on, a rod *23* to which is attached a roller *22* rises, and when the rotary disc *3* stops, the solenoid *21* turns off and the roller *22* drops. At this time, since the roller *22* is such that it can be readily turned by hand, it comes between the shaft pin *14* and the shaft pin *14*, and stops.

[0014] However, when the roller *22* stops immediately above the shaft pin *14* the direct current motor *18* rotates until an on/off switch *24* turns off (that is to say, until the roller *22* falls between the shaft pin *14* and the shaft pin *14*).

[0015] Operation of the throttle lever

When the throttle lever *12* is pulled, direct current of 12 V is applied to the direct current motor *18*, and the rotary disc *3* spins at a speed of 1 rotation per second. At the same time, the rod *23* of the solenoid *21* rises, and the roller *22* also rises. Two seconds after the throttle lever *12* is pulled, the spinning continues. When the throttle lever *12* is returned 2 seconds later, the voltage of the direct current motor *18* is lowered about 3 V, and the speed falls to about 1/6 in 1 second. It automatically stops 5 seconds after returning the throttle lever *12*.

[0016] Furthermore, if the throttle lever continues to be pulled, after 5 seconds it automatically returns to its position and operates. At the same time, the solenoid *21* turns off, and the roller *22* drops. The on/off switch *24* detects the dropping of the roller *22* between the shaft pin *14* and the shaft pin *14*, and the signal is input to a computer (not shown) in the housing *1*. When the computer identifies the signal, the signal is read from the

sensor unit 19 and the hit marks and the miss marks are read, and when hit marks are detected, the bonus distribution operation is carried out according to the step-up conditions formed on the monitor screen, and one round of a game is over.

[0017] When playing a game, a coin is inserted, and when the player presses the button for the desired number from among the buttons 7 to 10 to determine the card bet number, each card 25 selected for each game by the computer is displayed on the monitor screen 11. In accordance with this card 25, the bonus multiple of each hit mark and the step-up conditions on the monitor screen 11 are gradually stepped up. Big odds and conditions are lined up. Once a player decides to start a game, he/she pulls the throttle lever. The rotary disc 3 spins. Two seconds later the throttle lever 12 is returned and the spinning of the rotary disc 3 slows, and is controlled so that the designated mark on the periphery of the rotary disc stops at hit position A or at A, B, and C. Five seconds later, when the speed of the direct current motor 18 reaches 0, the roller 22 drops, falling between the shaft pin 14 and the shaft pin 14 adjacent to the back side of the rotary disc 3 that is spinning very slowly, and the rotary disc 3 stops.

[0018] Just before stopping, the roller 22 passes beyond the shaft pin 14 to go between the next shaft pin 14, and if it does not pass beyond, it falls between the closer shaft pin 14, increasing the thrill involved. When the roller 22 drops completely, it is detected by the on/off switch 24, and when the signal is input to the computer, the computer reads the signal from the sensor unit 19, and the mark at positions A or B, and C are read as hit marks or miss marks, and in the case of hit marks, bonus distribution for said hit marks is made as displayed on the monitor screen, and one round of a game is over.

[0019]

**[Advantageous Effects of the Invention]** Since the present invention is provided with a step-up formation means that displays on a monitor screen a variety of cards to step up bonus distribution for a hit mark, corresponding to the number of coins inserted, among a large number of marks displayed on the periphery of a rotary disc, and a throttle lever device for controlling the number of on/off rotations of said rotary disc, a means for detecting the type of hit mark and the step-up conditions and for receiving the detection signals, and a computer for carrying out said means, a player can form step-up conditions for bonus distribution for hit marks on the periphery of the rotary disc, and can determine for himself or herself whether or not to play the game with those conditions, and can initiate the game by pulling the throttle lever to spin the rotary disc, and can control the speed of the rotary disc while controlling the pulling of the throttle lever, he or she can control the stopping position to some degree, so that if it is stopped skillfully, a big bonus can be won, giving the player a huge thrill that cannot be enjoyed with other game devices.

### **[Brief Description of the Drawings]**

**[FIG. 1]** An oblique view of the external appearance of an example of the present invention.

**[FIG. 2]** A front view of a round slot game.

**[FIG. 3]** A monitor screen on the surface of the housing.

**[FIG. 4]** An exploded oblique view of the rotary disc parts.

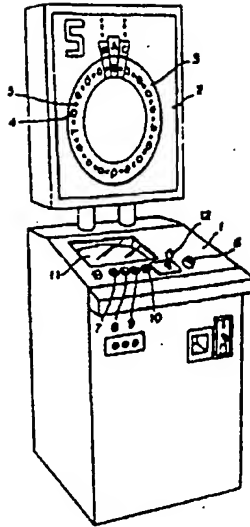
**[FIG. 5]** A front view explaining the operation of the rotary disc, solenoid, roller, and on/off switch.

**[FIG. 6]** A front view of the sensor unit for detecting the rotational position of the rotary disc.

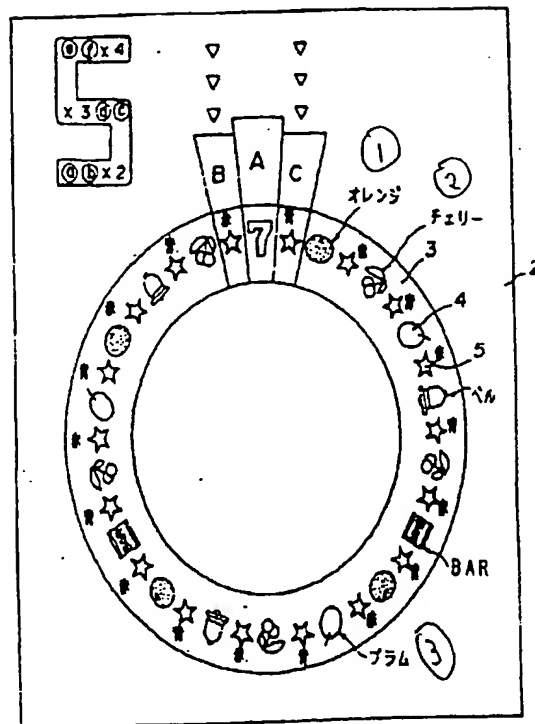
### **[Description of the Reference Numbers]**

- 1** Housing
- 2** Round slot game board
- 3** Rotary disc
- 4** Hit mark
- 5** Miss mark
- 6** Coin slot
- 7** Button
- 8** Button
- 9** Button
- 10** Button
- 11** Monitor screen
- 12** Throttle lever
- 14** Shift pin
- 15** Sensor ring plate
- 16** Notch
- 18** Direct current motor
- 19** Sensor unit
- 20** Light sensor
- 21** Solenoid
- 22** Roller
- 23** Rod
- 24** On/off switch
- 25** Various cards

[FIG. 1]



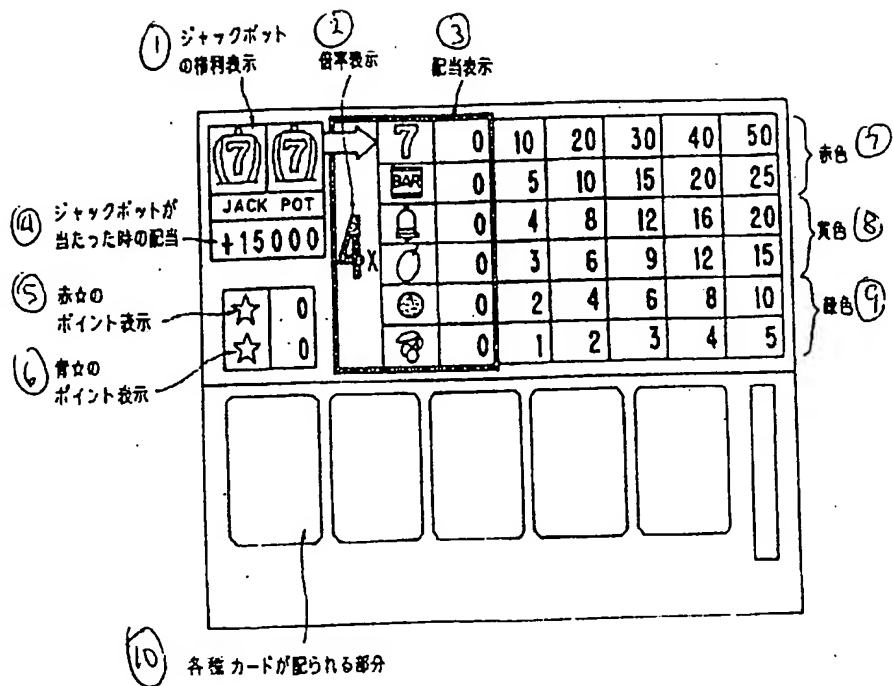
[FIG. 2]



Key:

- (1) Orange
- (2) Cherry
- (3) Plum

[FIG. 3]

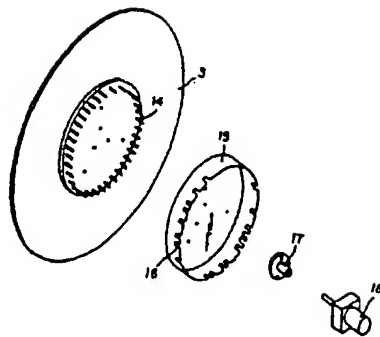


Key:

- (1) Display for jackpot rights
- (2) Display for multiple
- (3) Display for bonus
- (4) Bonus when one hits the jackpot
- (5) Display for Red star points
- (6) Display for Blue star points
- (7) Red
- (8) Yellow
- (9) Green
- (10) Part for arranging the various cards



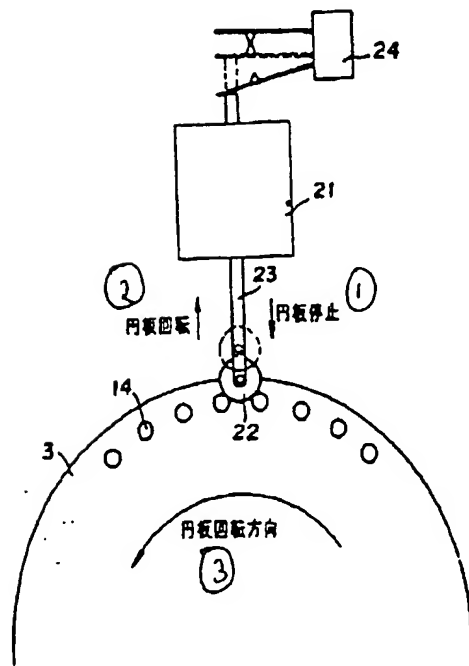
[FIG. 4]



[FIG. 5]

Key:

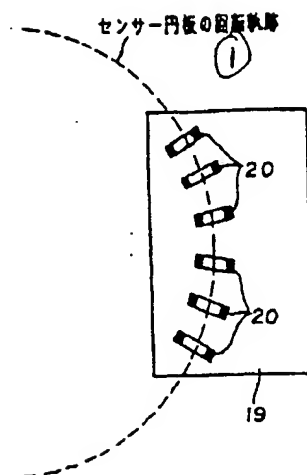
- (3) Disc stops
- (2) Disc rotates
- (3) Rotational direction of disc



[FIG. 6]

Key:

(1) Rotational  
path of  
sensor ring



*Translated by John F. Bukacek (773/508-0352)*

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